Release notes for ENDF/B Development n-056_Ba_136 evaluation

April 26, 2017

- checkr Warnings:

    1. A previous error halted parsing of the current section
       MAT=5643, MF= 1, MT=451 (1): Parsing stopped

       ```
       ERROR(S) FOUND IN MAT=5643, MF= 1, MT=451
           SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER     254 TO     300
       ```

- checkr Errors:

    1. A variable is outside the allowed ENDF range
       MAT=5643, MF= 1, MT=451 (0): Variable range

       ```
       ERROR(S) FOUND IN MAT=5643, MF= 1, MT=451
           MOD =     1 OUT OF RANGE    0 -    0           RECORD NUMBER     254
       ```

    2. Missing a section in directory so your directory is messed up. This error will break everything else
       MAT=5643, MF= 2, MT=151 (0): Directory (b)

       ```
       ERROR(S) FOUND IN MAT=5643, MF= 2, MT=151
           SECTION  2/151 NOT IN DIRECTORY             RECORD NUMBER     302
       ```

    3. Missing a section in directory so your directory is messed up. This error will break everything else
       MAT=5643, MF= 3, MT= 1 (0): Directory (b)

       ```
       ERROR(S) FOUND IN MAT=5643, MF= 3, MT=  1
           SECTION  3/  1 NOT IN DIRECTORY             RECORD NUMBER     469
       ```

    4. Missing a section in directory so your directory is messed up. This error will break everything else
       MAT=5643, MF= 3, MT= 2 (0): Directory (b)

       ```
       ERROR(S) FOUND IN MAT=5643, MF= 3, MT=  2
           SECTION  3/  2 NOT IN DIRECTORY             RECORD NUMBER     494
       ```

    5. Missing a section in directory so your directory is messed up. This error will break everything else
       MAT=5643, MF= 3, MT= 4 (0): Directory (b)

       ```
       ERROR(S) FOUND IN MAT=5643, MF= 3, MT=  4
           SECTION  3/  4 NOT IN DIRECTORY             RECORD NUMBER     519
       ```

    6. Missing a section in directory so your directory is messed up. This error will break everything else
       MAT=5643, MF= 3, MT= 16 (0): Directory (b)

       ```
       ERROR(S) FOUND IN MAT=5643, MF= 3, MT= 16
           SECTION  3/ 16 NOT IN DIRECTORY             RECORD NUMBER     534
       ```

    7. Missing a section in directory so your directory is messed up. This error will break everything else
       MAT=5643, MF= 3, MT= 17 (0): Directory (b)

1

```
        ERROR(S) FOUND IN MAT=5643, MF= 3, MT= 17
          SECTION  3/ 17 NOT IN DIRECTORY                RECORD NUMBER      544
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5643, MF= 3, MT= 22 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 3, MT= 22
          SECTION  3/ 22 NOT IN DIRECTORY                RECORD NUMBER      550
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5643, MF= 3, MT= 28 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 3, MT= 28
          SECTION  3/ 28 NOT IN DIRECTORY                RECORD NUMBER      564
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 3, MT= 51 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 3, MT= 51
          SECTION  3/ 51 NOT IN DIRECTORY                RECORD NUMBER      575
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 3, MT= 52 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 3, MT= 52
          SECTION  3/ 52 NOT IN DIRECTORY                RECORD NUMBER      590
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 3, MT= 53 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 3, MT= 53
          SECTION  3/ 53 NOT IN DIRECTORY                RECORD NUMBER      603
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 3, MT= 54 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 3, MT= 54
          SECTION  3/ 54 NOT IN DIRECTORY                RECORD NUMBER      616
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 3, MT= 55 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 3, MT= 55
          SECTION  3/ 55 NOT IN DIRECTORY                RECORD NUMBER      628
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 3, MT= 56 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5643, MF= 3, MT= 56
     SECTION  3/ 56 NOT IN DIRECTORY                  RECORD NUMBER     639
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 3, MT= 57 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5643, MF= 3, MT= 57
     SECTION  3/ 57 NOT IN DIRECTORY                  RECORD NUMBER     650
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 3, MT= 58 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5643, MF= 3, MT= 58
     SECTION  3/ 58 NOT IN DIRECTORY                  RECORD NUMBER     661
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 3, MT= 59 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5643, MF= 3, MT= 59
     SECTION  3/ 59 NOT IN DIRECTORY                  RECORD NUMBER     671
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 3, MT= 60 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5643, MF= 3, MT= 60
     SECTION  3/ 60 NOT IN DIRECTORY                  RECORD NUMBER     681
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 3, MT= 91 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5643, MF= 3, MT= 91
     SECTION  3/ 91 NOT IN DIRECTORY                  RECORD NUMBER     691
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 3, MT=102 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5643, MF= 3, MT=102
     SECTION  3/102 NOT IN DIRECTORY                  RECORD NUMBER     700
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 3, MT=103 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5643, MF= 3, MT=103
     SECTION  3/103 NOT IN DIRECTORY                  RECORD NUMBER     721
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 3, MT=104 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 3, MT=104
           SECTION  3/104 NOT IN DIRECTORY                    RECORD NUMBER     736
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 3, MT=105 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 3, MT=105
           SECTION  3/105 NOT IN DIRECTORY                    RECORD NUMBER     748
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 3, MT=107 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 3, MT=107
           SECTION  3/107 NOT IN DIRECTORY                    RECORD NUMBER     759
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 4, MT= 2 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 4, MT=  2
           SECTION  4/  2 NOT IN DIRECTORY                    RECORD NUMBER     776
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 4, MT= 16 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 4, MT= 16
           SECTION  4/ 16 NOT IN DIRECTORY                    RECORD NUMBER     953
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 4, MT= 17 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 4, MT= 17
           SECTION  4/ 17 NOT IN DIRECTORY                    RECORD NUMBER     964
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 4, MT= 22 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 4, MT= 22
           SECTION  4/ 22 NOT IN DIRECTORY                    RECORD NUMBER     975
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 4, MT= 28 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 4, MT= 28
           SECTION  4/ 28 NOT IN DIRECTORY                    RECORD NUMBER     986
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 4, MT= 51 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 4, MT= 51
          SECTION  4/ 51 NOT IN DIRECTORY              RECORD NUMBER     997
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 4, MT= 52 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 4, MT= 52
          SECTION  4/ 52 NOT IN DIRECTORY              RECORD NUMBER    1104
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 4, MT= 53 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 4, MT= 53
          SECTION  4/ 53 NOT IN DIRECTORY              RECORD NUMBER    1129
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 4, MT= 54 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 4, MT= 54
          SECTION  4/ 54 NOT IN DIRECTORY              RECORD NUMBER    1154
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 4, MT= 55 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 4, MT= 55
          SECTION  4/ 55 NOT IN DIRECTORY              RECORD NUMBER    1179
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 4, MT= 56 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 4, MT= 56
          SECTION  4/ 56 NOT IN DIRECTORY              RECORD NUMBER    1203
```

37. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 4, MT= 57 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 4, MT= 57
          SECTION  4/ 57 NOT IN DIRECTORY              RECORD NUMBER    1227
```

38. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 4, MT= 58 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 4, MT= 58
          SECTION  4/ 58 NOT IN DIRECTORY              RECORD NUMBER    1251
```

39. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5643, MF= 4, MT= 59 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 4, MT= 59
             SECTION  4/ 59 NOT IN DIRECTORY                    RECORD NUMBER    1275
```

40. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5643, MF= 4, MT= 60 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 4, MT= 60
             SECTION  4/ 60 NOT IN DIRECTORY                    RECORD NUMBER    1299
```

41. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5643, MF= 4, MT= 91 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 4, MT= 91
             SECTION  4/ 91 NOT IN DIRECTORY                    RECORD NUMBER    1323
```

42. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5643, MF= 5, MT= 16 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 5, MT= 16
             SECTION  5/ 16 NOT IN DIRECTORY                    RECORD NUMBER    1348
```

43. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5643, MF= 5, MT= 17 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 5, MT= 17
             SECTION  5/ 17 NOT IN DIRECTORY                    RECORD NUMBER    1411
```

44. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5643, MF= 5, MT= 22 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 5, MT= 22
             SECTION  5/ 22 NOT IN DIRECTORY                    RECORD NUMBER    1437
```

45. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5643, MF= 5, MT= 28 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 5, MT= 28
             SECTION  5/ 28 NOT IN DIRECTORY                    RECORD NUMBER    1653
```

46. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5643, MF= 5, MT= 91 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=5643, MF= 5, MT= 91
             SECTION  5/ 91 NOT IN DIRECTORY                    RECORD NUMBER    1758
```

- `psyche` Warnings:

   1. Gamma width not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ISOTOPE MASS = 136. L = 1 / AT RESONANCE ENERGY 2.96880E+04 EV. THE GAMMA WIDTH 9.40000E-01 DEVIATES TOO MUCH FROM THE AVERAGE 1.67028E-01 (0): Gamma width

```
FILE  2
   SECTION 151
      ISOTOPE MASS = 136. L =  1
                AT RESONANCE ENERGY  2.96880E+04 EV. THE GAMMA WIDTH  9.40000E-01 DEVIATES TOO MUCH FROM THE AV
```

2. Gamma width not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ISOTOPE MASS = 136. L = 1 / AT RESONANCE ENERGY 3.36340E+04 EV. THE GAMMA WIDTH 9.60000E-01 DEVIATES TOO MUCH FROM THE AVERAGE 1.67028E-01 (0): Gamma width

```
FILE  2
   SECTION 151
      ISOTOPE MASS = 136. L =  1
                AT RESONANCE ENERGY  3.36340E+04 EV. THE GAMMA WIDTH  9.60000E-01 DEVIATES TOO MUCH FROM THE AV
```

3. Strength function in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 3.50000E+04. STRENGTH FUNCTION IS 8.50003E-05 / STRENGTH FUNCTION 8.50003E-05 / LIES OUTSIDE LIMITS 1.00000E-04 TO 8.00000E-04 (0): URR str. ftn.

```
FILE  2
   SECTION 151
      ENERGY =  3.50000E+04. STRENGTH FUNCTION IS  8.50003E-05
                  STRENGTH FUNCTION 8.50003E-05
                             LIES OUTSIDE LIMITS 1.00000E-04 TO 8.00000E-04
... [5 more lines]
```

4. Strength function in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 3.50000E+04. STRENGTH FUNCTION IS 8.50003E-05 / STRENGTH FUNCTION 8.50002E-05 / LIES OUTSIDE LIMITS 1.00000E-04 TO 8.00000E-04 (0): URR str. ftn.

```
FILE  2
   SECTION 151
      ENERGY =  3.50000E+04. STRENGTH FUNCTION IS  8.50003E-05
                  STRENGTH FUNCTION 8.50002E-05
                             LIES OUTSIDE LIMITS 1.00000E-04 TO 8.00000E-04
... [2 more lines]
```

5. Strength function in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 3.50000E+04. STRENGTH FUNCTION IS 8.50003E-05 / STRENGTH FUNCTION 8.50005E-05 / LIES OUTSIDE LIMITS 1.00000E-04 TO 8.00000E-04 (0): URR str. ftn.

```
FILE  2
   SECTION 151
      ENERGY =  3.50000E+04. STRENGTH FUNCTION IS  8.50003E-05
                  STRENGTH FUNCTION 8.50005E-05
                             LIES OUTSIDE LIMITS 1.00000E-04 TO 8.00000E-04
... [1 more lines]
```

6. Strength function in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 3.50000E+04. STRENGTH FUNCTION IS 8.50003E-05 / STRENGTH FUNCTION 8.50004E-05 / LIES OUTSIDE LIMITS 1.00000E-04 TO 8.00000E-04 (0): URR str. ftn.

```
FILE  2
   SECTION 151
       ENERGY =  3.50000E+04. STRENGTH FUNCTION IS  8.50003E-05
                        STRENGTH FUNCTION 8.50004E-05
                                     LIES OUTSIDE LIMITS 1.00000E-04 TO 8.00000E-04
... [1 more lines]
```

7. Strength function in URR not in agreement with PSYCHE's expectations
   *FILE 2 / SECTION 151 / ENERGY = 3.50000E+04. STRENGTH FUNCTION
   IS 8.50003E-05 / STRENGTH FUNCTION 8.49990E-05 / LIES OUTSIDE LIMITS
   1.00000E-04 TO 8.00000E-04 (0): URR str. ftn.*

```
FILE  2
   SECTION 151
       ENERGY =  3.50000E+04. STRENGTH FUNCTION IS  8.50003E-05
                        STRENGTH FUNCTION 8.49990E-05
                                     LIES OUTSIDE LIMITS 1.00000E-04 TO 8.00000E-04
```

8. Strength function in URR not in agreement with PSYCHE's expectations
   *FILE 2 / SECTION 151 / ENERGY = 3.50000E+04. STRENGTH FUNCTION
   IS 8.50003E-05 / STRENGTH FUNCTION 8.49997E-05 / LIES OUTSIDE LIMITS
   1.00000E-04 TO 8.00000E-04 (0): URR str. ftn.*

```
FILE  2
   SECTION 151
       ENERGY =  3.50000E+04. STRENGTH FUNCTION IS  8.50003E-05
                        STRENGTH FUNCTION 8.49997E-05
                                     LIES OUTSIDE LIMITS 1.00000E-04 TO 8.00000E-04
```

9. Strength function in URR not in agreement with PSYCHE's expectations
   *FILE 2 / SECTION 151 / ENERGY = 3.50000E+04. STRENGTH FUNCTION
   IS 8.50003E-05 / STRENGTH FUNCTION 8.49985E-05 / LIES OUTSIDE LIMITS
   1.00000E-04 TO 8.00000E-04 (0): URR str. ftn.*

```
FILE  2
   SECTION 151
       ENERGY =  3.50000E+04. STRENGTH FUNCTION IS  8.50003E-05
                        STRENGTH FUNCTION 8.49985E-05
                                     LIES OUTSIDE LIMITS 1.00000E-04 TO 8.00000E-04
```

10. Non-threshold reaction with Q value differing from PSYCHE's expectations
    *FILE 3 / SECTION 102 / THE CALCULATED Q 7.93357E+06 DISSAGREES WITH
    THE GIVEN Q 6.89839E+06 (0): Iffy Q*

```
FILE  3
   SECTION 102
           THE CALCULATED Q  7.93357E+06 DISSAGREES WITH THE GIVEN Q  6.89839E+06
```

11. Non-threshold reaction with Q value differing from PSYCHE's expectations
    *FILE 3 / SECTION 107 / THE CALCULATED Q 5.44491E+06 DISSAGREES WITH
    THE GIVEN Q 4.41020E+06 (0): Iffy Q*

```
FILE  3
   SECTION 107
           THE CALCULATED Q  5.44491E+06 DISSAGREES WITH THE GIVEN Q  4.41020E+06
```

- groupie   Errors:

  1. Very small elastic cross section found
     0: Small elastic

     ```
     Multi-Group and Multi-Band Parameters from ENDF/B Data (GROUPIE 2015-2)
     ---------------------------------------------------------------------------
     ENDF/B Input and Output Data Filenames
     ENDFB.IN
     ENDFB.OUT
     ... [97 more lines]
     ```

- fudge-4.0   Warnings:

  1. Missing a channel with a particular angular momenta combination
     resonances / resolved / MultiLevel_BreitWigner (Error # 0): missingResonanceChannel

     ```
     WARNING: Missing a channel with angular momenta combination L = 0, J = 1.5 and S = 1.5 for "capture"
     WARNING: Missing a channel with angular momenta combination L = 1, J = 0.5 and S = 1.5 for "capture"
     WARNING: Missing a channel with angular momenta combination L = 1, J = 1.5 and S = 1.5 for "capture"
     WARNING: Missing a channel with angular momenta combination L = 1, J = 2.5 and S = 1.5 for "capture"
     ```

  2. Cross section does not match sum of linked reaction cross sections
     crossSectionSum label 0: total (Error # 0): CS Sum.

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 0.58%
     ```

  3. Cross section does not match sum of linked reaction cross sections
     crossSectionSum label 1: (z,n) (Error # 0): CS Sum.

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 0.10%
     ```

- fudge-4.0   Errors:

  1. Calculated and tabulated Q values disagree.
     reaction label 12: n[multiplicity:'2'] + Ba135 (Error # 0): Q mismatch

     ```
     WARNING: Calculated and tabulated Q-values disagree: -9192686.23526001 eV vs -9112090. eV!
     ```

  2. Calculated and tabulated Q values disagree.
     reaction label 13: n[multiplicity:'3'] + Ba134 (Error # 0): Q mismatch

     ```
     WARNING: Calculated and tabulated Q-values disagree: -16164646.9385376 eV vs -1.60902e7 eV!
     ```

  3. Calculated and tabulated Q values disagree.
     reaction label 14: n + H1 + Cs135 (Error # 0): Q mismatch

     ```
     WARNING: Calculated and tabulated Q-values disagree: -8678998.315063477 eV vs -8534640. eV!
     ```

  4. Calculated and tabulated Q values disagree.
     reaction label 15: Ba137 + gamma (Error # 0): Q mismatch

     ```
     WARNING: Calculated and tabulated Q-values disagree: 6820663.770401001 eV vs 6898390. eV!
     ```

  5. Calculated and tabulated Q values disagree.
     reaction label 16: n + He4 + Xe132 (Error # 0): Q mismatch

9

```
    WARNING: Calculated and tabulated Q-values disagree: -2116316.367004395 eV vs -2.0419e6 eV!
```

6. Calculated and tabulated Q values disagree.
   reaction label 17: H1 + Cs136_s (Error # 0): Q mismatch

```
    WARNING: Calculated and tabulated Q-values disagree: -1850823.032897949 eV vs -1765540. eV!
```

7. Calculated and tabulated Q values disagree.
   reaction label 18: H2 + Cs135_s (Error # 0): Q mismatch

```
    WARNING: Calculated and tabulated Q-values disagree: -6454432.214126587 eV vs -6224520. eV!
```

8. Calculated and tabulated Q values disagree.
   reaction label 19: H3 + Cs134_s (Error # 0): Q mismatch

```
    WARNING: Calculated and tabulated Q-values disagree: -8959188.799484253 eV vs -8871460. eV!
```

9. Calculated and tabulated Q values disagree.
   reaction label 20: He4 + Xe133_s (Error # 0): Q mismatch

```
    WARNING: Calculated and tabulated Q-values disagree: 4318119.175979614 eV vs 4.4102e6 eV!
```

- njoy2012 Warnings:

  1. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
     groupr...compute self-shielded group-averaged cross-sections (0): GROUPR/conver (0)

```
     ---message from conver---cannot do complete particle production for mt= 16
                         only mf4/mf5 provided
```

  2. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
     groupr...compute self-shielded group-averaged cross-sections (1): GROUPR/conver (0)

```
     ---message from conver---cannot do complete particle production for mt= 17
                         only mf4/mf5 provided
```

  3. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
     groupr...compute self-shielded group-averaged cross-sections (2): GROUPR/conver (0)

```
     ---message from conver---cannot do complete particle production for mt= 22
                         only mf4/mf5 provided
```

  4. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
     groupr...compute self-shielded group-averaged cross-sections (3): GROUPR/conver (0)

```
      ---message from conver---cannot do complete particle production for mt= 28
                           only mf4/mf5 provided
```

5. With the advent of the ENDF-6 format, it is possible to make evaluations that fully
   describe all the products of a nuclear reaction. Some carry-over evaluations from earlier
   ENDF/B versions also have this capability, but many do not. This message is intended
   to goad evaluators to improve things!
   groupr...compute self-shielded group-averaged cross-sections (4): GROUPR/conver (0)

```
      ---message from conver---cannot do complete particle production for mt= 91
                           only mf4/mf5 provided
```